

B. Claims

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. (Currently Amended) A method for manufacturing carbon fibers by means of a thermal CVD method, said method comprising at least a step of heating a substrate including a catalyst arranged on a surface of said substrate in a depressurized atmosphere including a carbon containing gas to grow carbon fibers by using said catalyst, wherein a partial pressure of the carbon containing gas is 1/1000 or less of a total pressure of the ~~reduced-pressure~~ depressurized atmosphere, and is 10 Pa or less.

2. (Currently Amended) A method for manufacturing carbon fibers by means of a thermal CVD method, said method comprising at least a step of heating a substrate including a catalyst arranged on a surface of said substrate in a depressurized atmosphere including a carbon containing gas to grow carbon fibers by using said catalyst, wherein a total pressure of the ~~reduced-pressure~~ depressurized atmosphere is 2000 Pa or less, and a partial pressure of the carbon containing gas is 10 Pa or less.

3. (Currently Amended) A method for manufacturing carbon fibers by means of a thermal CVD method, said method comprising at least a step of heating a substrate including a catalyst arranged on a surface of said substrate in a depressurized atmosphere including a carbon containing gas to grow carbon fibers by using said catalyst, wherein a total pressure of the ~~reduced-pressure~~ depressurized atmosphere is 600 Pa or

less, and a partial pressure of the carbon containing gas is 10 Pa or less.

4. (Original) A method for manufacturing carbon fibers according to claim 1, wherein the partial pressure of the carbon containing gas is 1 Pa or less.

5. (Original) A method for manufacturing carbon fibers according to claim 2, wherein the partial pressure of the carbon containing gas is 1 Pa or less.

6. (Original) A method for manufacturing carbon fibers according to claim 3, wherein the partial pressure of the carbon containing gas is 1 Pa or less.

7. (Previously Presented) A method for manufacturing carbon fibers according to claim 1, wherein said carbon containing gas is introduced into the depressurized atmosphere together with a carrier gas.

8. (Original) A method for manufacturing carbon fibers according to claim 7, wherein said carrier gas is a hydrogen gas.

9. (Original) A method for manufacturing carbon fibers according to claim 7, wherein said carrier gas is an inert gas.

10. (Original) A method for manufacturing carbon fibers according to claim 1, wherein said carbon containing gas is a carbon hydride gas.

11. (Original) A method for manufacturing carbon fibers according to claim 1, wherein said carbon containing gas is an acetylene gas.

12. (Original) A method for manufacturing carbon fibers according to claim 2, wherein said carbon containing gas is an acetylene gas.

13. (Original) A method for manufacturing carbon fibers according to claim 3, wherein said carbon containing gas is an acetylene gas.

14. (Previously Presented) A method for manufacturing carbon fibers according to claim 1, wherein said catalyst is composed of a plurality of catalyst particles.

15. (Previously Presented) A method for manufacturing carbon fibers according to claim 1, wherein said catalyst is composed of a plurality of catalyst particles, and said catalyst particles are made of an alloy of Pd and Co.

16. (Previously Presented) A method for manufacturing carbon fibers according to claim 2, wherein said catalyst is composed of a plurality of catalyst particles, and said catalyst particles are made of an alloy of Pd and Co.

17. (Previously Presented) A method for manufacturing carbon fibers according to claim 3, wherein said catalyst is composed of a plurality of catalyst particles, and said catalyst particles are made of an alloy of Pd and Co.

18. (Original) A method for manufacturing carbon fibers according to claim 1, wherein said carbon fibers are graphite nanofibers.

19. (Original) A method for manufacturing an electron-emitting device using carbon fibers as electron-emitting members, wherein said carbon fibers are manufactured by a manufacturing method according to claim 1.

20. (Original) A method for manufacturing an electron source composed of a plurality of electron-emitting devices arranged on a substrate, wherein said electron-emitting devices are manufactured by a manufacturing method according to claim 19.

21. (Original) A method for manufacturing an image display apparatus including an electron source and an image-forming member arranged to be opposed to said electron source, wherein said electron source is manufactured by a manufacturing method according to claim 20.

22. (Original) A method for manufacturing a light bulb including an electron-emitting body using carbon fibers as electron-emitting members, and a light-

emitting member, wherein said carbon fibers are made by a manufacturing method according to claim 1.

23. (Original) A method for manufacturing a secondary battery using carbon fibers as cathodes, wherein said carbon fibers are manufactured by a manufacturing method according to claim 1.